Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–III EXAMINATION – SUMMER 2016

Subject Code:130601 **Date:13/06/2016**

Subject Name:Surveying

Time:10:30 AM to 01:00 PM **Total Marks: 70**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	**(a)**	Explain the repetition method for measurement of horizontal angle.	**07**
	(b)	Define: 1) Closing error. 2) Line of collimation.3) Latitude. 4) Departure.	**07**
Q.2	**(a)**	What are the methods of plane tabling? Discuss any one in detail.	**07**
	(b)	Derive an expression for the distance and height for the trigonometric leveling when two instruments are at different level.	**07**
		OR	
	(b)	Explain in detail Balancing of Traverse.	**07**
Q.3	**(a)**	Compute the following elements of simple circular curve. i) Length of curve. ii) Tangent length. iii) Length of long chord. Take Radius of curve.=300m Deflection angle = 40^0.	**07**
	(b)	Discuss the elements of simple circular curve.	**07**
		OR	
Q.3	**(a)**	Describe the method of setting out of circular curve by offsets from long chord.	**07**
	(b)	Explain in detail Rankine's method for setting out of a simple circular curve.	**07**
Q.4	**(a)**	Explain the working of planimeter in detail.	**07**
	(b)	Compute the area of cross section if the formation width is 10m,side slop is 1:1, average height along the centre line is 5m and transverse slop of the ground is 10:1.	**07**
		OR	
Q.4	**(a)**	What is the purpose of hydrographic survey?	**07**
	(b)	Discuss the procedure for setting out the bridge.	**07**
Q.5	**(a)**	What is sounding? Discuss the methods of locating sounding.	**07**
	(b)	Explain the methods used to transfer levels from surface to underground.	**07**
		OR	
Q.5	**(a)**	Discuss how the capacity of reservoir is determined?	**07**
	(b)	Derive the equation for Trapezoidal and Simpson's rule to find out area of an irregular figure.	**07**

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